

Mineral Industry Surveys

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SILICON IN JANUARY 2000

In **January**, domestic shipments and overall production of silicon ferroalloys plus metal, excluding silvery pig iron, were estimated to have decreased by about 2% and increased by about 8% compared with the corresponding figures for the prior month, according to the U.S. Geological Survey. Total producer stocks were estimated to have risen about 2% to a level higher than that for any month of 1999.

December 1999 trade data are included in this report. Trade data for January were unavailable at the time of publication and will be included in a subsequent report.

The preliminary trade data for all of 1999 listed in this report indicated for all categories combined and on a content basis that exports and imports of ferrosilicon and silicon metal were greater than for those in 1998. The biggest year-to-year increase, about 60%, was for exports of silicon metal, for which the rate of export was greatest in April through July.

American Alloys Inc. stopped its production of ferrosilicon

immediately after abruptly having declared Chapter 11 bankruptcy on January 26. Factors in the shutdown of American Alloys' plant at Graham, WV, appeared to have included low prices and the removal of antidumping duties on ferrosilicon from a number of foreign countries. Of the industries American Alloys had been supplying, the foundry industry seemed likely to be the one most affected by the shutdown (Ryan's Notes, 2000).

Published prices for silicon-based commodities are listed below (**Source: Platt's Metals Week**). Ferrosilicon prices are based on the contained weight of silicon. All prices are posted in cents per pound.

Reference Cited

Ryan's Notes, 2000, Chap. 11 for American Alloys; impact and causes debated:
Ryan's Notes, v. 6, no. 5, January 31, p. 1.

Dealer Import Prices

	<u>50% Ferrosilicon</u>	<u>75% Ferrosilicon</u>	<u>Silicon Metal</u>
January 5	43.0-47.0	34.0-36.5	52.0-53.0
January 12	43.0-47.0	34.0-36.0	52.0-53.0
January 19	43.0-47.0	34.0-36.0	52.0-53.0
January 26	43.0-47.0	34.0-36.0	54.0-55.0

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL 1/ 2/ 3/

(Metric tons)

Material	Gross production 4/		Net shipments		Stocks January 31, 2000
	January 2000	Year to date	January 2000	Year to date	
Ferrosilicon:					
25%-55% silicon 5/	26,300	26,300	12,600	12,600	53,700
56%-95% silicon	10,300	10,300	13,000	13,000	27,100
Silicon metal:					
Excludes semiconductor grades	17,400	17,400	18,300	18,300	7,370

1/ Data are rounded to three significant digits.

2/ Includes U.S. Geological Survey estimates.

3/ Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

4/ Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

5/ Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN DECEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	434	260	\$305,000	5,210	3,130	\$3,340,000
Chile	11	7	8,940	11	7	8,940
Costa Rica	--	--	--	3	2	2,810
Dominican Republic	--	--	--	19	11	21,900
Japan	--	--	--	5	3	3,880
Korea, Republic of	135	81	116,000	2,300	1,380	1,970,000
Malaysia	--	--	--	5	4	5,880
Mexico	314	217	303,000	2,910	1,850	3,070,000
Taiwan	--	--	--	44	26	35,100
United Kingdom	--	--	--	15	9	28,800
Other (3 countries)	--	--	--	6	4	11,500
Total	894	565	733,000	10,500	6,420	8,500,000
Other ferrosilicon:						
Belgium	--	--	--	2,020	1,010	2,190,000
Canada	527	264	343,000	6,410	3,210	4,380,000
China	159	79	126,000	1,120	563	935,000
Germany	16	9	27,700	508	257	553,000
India	363	182	827,000	5,530	2,760	5,260,000
Japan	858	429	683,000	11,500	5,750	10,600,000
Korea, Republic of	197	98	156,000	2,050	1,030	1,620,000
Mexico	64	32	75,500	1,290	647	1,540,000
Taiwan	79	39	66,600	776	388	618,000
United Kingdom	314	157	237,000	3,900	1,950	3,010,000
Other (15 countries)	5	3	6,650	974	487	836,000
Total	2,580	1,290	2,550,000	36,100	18,100	31,600,000
Total ferrosilicon	3,480	1,860	3,280,000	46,600	24,500	40,100,000
Metal:						
More than 99.99 % silicon:						
China	15	XX	397,000	151	XX	5,280,000
Czech Republic	3	XX	71,500	63	XX	2,470,000
France	17	XX	286,000	69	XX	1,390,000
Germany	8	XX	308,000	33	XX	2,230,000
Japan	301	XX	14,500,000	2,550	XX	144,000,000
Korea, Republic of	74	XX	2,750,000	629	XX	17,800,000
Malaysia	18	XX	3,770,000	154	XX	32,600,000
Poland	6	XX	287,000	32	XX	1,540,000
Taiwan	18	XX	885,000	194	XX	9,910,000
United Kingdom	4	XX	858,000	42	XX	9,550,000
Other (41 countries)	41	XX	1,290,000	179	XX	9,370,000
Total	504	504 e/	25,400,000	4,090	4,090 e/	236,000,000

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN DECEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal--Continued:						
99.00% - 99.99% silicon:						
Australia	5	5	\$7,440	7	7	\$10,400
Belgium	--	--	--	6	6	8,290
Brazil	--	--	--	44	44	62,000
France	--	--	--	4	4	5,500
Germany	--	--	--	5	5	6,970
Japan	7	7	10,100	151	150	220,000
Mexico	201	199	269,000	217	215	294,000
Netherlands	10	10	26,900	11	11	33,200
Spain	--	--	--	7	7	9,300
Taiwan	13	12	9,790	13	12	9,790
Other (8 countries)	1	1	3,910	19	19	38,800
Total	237	235	327,000	484	480	698,000
Other silicon:						
Argentina	--	--	--	74	72	98,200
Canada	803	780	806,000	9,560	9,280	9,590,000
China	(3/)	(3/)	4,100	132	128	182,000
Germany	--	--	--	1,050	1,020	1,420,000
Israel	36	35	80,400	48	46	95,300
Japan	46	45	199,000	2,890	2,800	6,130,000
Korea, Republic of	--	--	--	237	230	378,000
Mexico	103	100	229,000	17,700	17,200	24,200,000
Taiwan	83	80	109,000	1,140	1,110	1,510,000
United Kingdom	--	--	--	51	50	67,900
Other (29 countries)	1	1	3,980	324	315	859,000
Total	1,070	1,040	1,430,000	33,200	32,200	44,500,000
Total silicon metal	1,810	1,780	27,200,000	37,700	36,800	281,000,000

e/ Estimated. XX Not applicable.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN DECEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date p/ 3/		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55% - 80% silicon, over 3% Ca:						
Argentina	35	21	\$32,900	255	154	\$280,000
Brazil	--	--	--	28	18	32,100
France	76	41	121,000	148	72	237,000
Germany	--	--	--	17	6	28,800
Macedonia	--	--	--	13,200	10,000	7,280,000
United Kingdom	--	--	--	10	7	75,900
Total	111	62	154,000	13,700	10,300	7,930,000
55% - 80% silicon, Other:						
Brazil	1,360	1,020	704,000	11,000	8,220	5,990,000
Canada	366	279	297,000	8,090	6,110	5,980,000
Egypt	--	--	--	2,610	1,900	1,430,000
France	180	124	364,000	2,250	1,480	4,680,000
Iceland	--	--	--	11,600	8,700	6,200,000
Kazakhstan	--	--	--	14,100	9,880	6,640,000
Norway	9,210	6,980	5,290,000	95,400	72,300	59,300,000
Poland	--	--	--	4,960	3,750	3,000,000
South Africa	4,520	3,430	2,530,000	34,800	26,400	19,900,000
Venezuela	8,520	6,420	4,490,000	8,720	6,570	4,660,000
Other (6 countries)	1,710	1,290	923,000	4,300	3,200	4,430,000
Total	25,900	19,500	14,600,000	198,000	149,000	122,000,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN DECEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date p/ 3/		
				Gross weight	Contained weight	Value
Ferrosilicon--Continued:						
80% - 90% silicon:						
Canada	--	--	--	73	65	\$5,830
More than 90% silicon:						
Canada	--	--	--	17	17	24,700
Magnesium ferrosilicon:						
Argentina	140	67	\$117,000	1,060	503	945,000
Brazil	681	292	467,000	5,280	2,420	3,840,000
Canada	--	--	--	327	156	303,000
China	440	186	288,000	4,000	1,880	3,020,000
Japan	17	9	40,300	133	66	309,000
Norway	613	282	561,000	13,100	6,010	12,600,000
Total	1,890	836	1,470,000	23,900	11,000	21,000,000
Other ferrosilicon:						
Brazil	--	--	--	8	4	13,300
Canada	858	256	667,000	9,760	3,300	7,920,000
France	--	--	--	81	41	191,000
Germany	--	--	--	80	12	102,000
Italy	--	--	--	294	27	104,000
Japan	--	--	--	64	36	121,000
Norway	--	--	--	342	114	430,000
South Africa	28	4	24,500	203	30	182,000
Total	886	260	692,000	10,800	3,560	9,060,000
Total ferrosilicon	28,800	20,700	16,900,000	246,000	174,000	160,000,000
Metal:						
More than 99.99% silicon:						
Canada	--	XX	--	3	XX	61,900
Denmark	(4/)	XX	7,080	2	XX	116,000
Germany	38	XX	5,240,000	402	XX	50,600,000
Italy	26	XX	1,320,000	556	XX	24,600,000
Japan	53	XX	1,800,000	469	XX	15,800,000
Korea, Republic of	5	XX	115,000	97	XX	2,530,000
Russia	60	XX	47,700	60	XX	51,800
Switzerland	--	XX	--	3	XX	64,700
Taiwan	56	XX	43,800	87	XX	410,000
United Kingdom	--	XX	--	12	XX	1,180,000
Other (10 countries)	--	XX	--	2	XX	132,000
Total	239	239 e/	8,580,000	1,690	1,690 e/	95,600,000
99.00% - 99.99% silicon:						
Australia	350	348	394,000	2,020	2,010	2,620,000
Brazil	1,240 5/	695 5/	1,530,000 5/	11,500	10,300	13,800,000
Canada	339	337	508,000	13,200	13,100	19,900,000
China	160	159	137,000	777	715	702,000
France	--	--	--	2,190	2,170	3,150,000
Norway	921 5/	922 5/	1,450,000 5/	6,900	6,910	10,300,000
Russia	--	--	--	8,270	8,130	8,760,000
Saudi Arabia	81	80	78,100	1,950	1,930	1,880,000
South Africa	3,770	3,740	4,471,000	20,900	20,700	25,600,000
Spain	--	--	--	582	577	606,000
Other (6 countries)	39	4	77,400	690	559	1,080,000
Total	6,900	6,280	8,640,000	68,900	67,100	88,500,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN DECEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date p/ 3/		
				Gross weight	Contained weight	Value
Meta--Continued:						
Other silicon:						
Brazil	--	--	--	1,480	978	\$1,820,000
Canada	978	966	\$1,370,000	9,820	9,660	14,000,000
China	158	156	116,000	2,240	2,220	1,900,000
Korea, Republic of	--	--	--	399	388	364,000
Norway	18	18	51,500	405	393	445,000
Russia	1,650	1,620	1,360,000	15,100	14,700	15,400,000
Saudi Arabia	--	--	--	10,000	9,800	10,100,000
South Africa	718	701	622,000	4,990	4,870	4,890,000
Spain	--	--	--	282	278	357,000
United Kingdom	19	19	25,900	433	420	581,000
Other (7 countries)	61	(4/)	66,400	656	513	778,000
Total	3,600	3,480	3,610,000	45,800	44,200	50,700,000
Total silicon metal	10,700	10,000	16,800,000	116,000	113,000	235,000,000

e/ Estimated. p/ Preliminary. XX Not applicable.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ May include revisions to previous months' data.

4/ Less than 1/2 unit.

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.